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- 1 37. Memory of claim [36] 35 wherein the examining comprises hashing the portion of
2 the network layer flow information to produce a hash value, and the hash value is used, at
3 least in part, to select the one processing engine.
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REMARKS

The Examiner has rejected essentially all the claims under 35 USC 112, first paragraph. Applicant apologizes for not responding to the rejection in the prior responses. But, Applicant does so now.

Regarding the 112, first paragraph, rejection of all the claims:

A. For claims 1 and 11 the Examiner states that the specification does not adequately describe the (especially) "determine distribution of the packets to the route processing engines" and the "the distribution being such that an original packet flow comprising the packet(sic) is preserved." In response the claims have been amended as follows: the word "ordered" has been added to the claims 1 and 11 and the word "original" deleted. In addition the "preservation" is expanded by including that the packet flow is "sent to the same route processing engine." The preservation of an ordered sequence is well known in the art and is well described in the original application as filed. These points are also reinforced as being in the prior art by the U.S. patent, no. 6,111,877 to

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Wilford et Al. that was added by the Applicant and cited by the Examiner in reference to 35 US 103(a) later in the Office Action.

With respect to "new matter" and enablement, please refer to the paragraph that straddles pages 2 and 3 of the original application and page 5, lines 16-20. Here is stated that the "original order of the data packets within the same flow to be maintained." Thus "ordered" is defined and not new matter.

The original application describes a hash function to determine the distribution of the flows, making sure that packets within the same flow are sent to the same processor so that the original order in each flow is maintained. So the mechanism or the way the original packet flow is "preserved" is by sending the packets in the same flow to the same processor. Also, see page 12, lines 4-19. On page 12, line 16 it is stated, "The hash function distributes the packets evenly among the processors..." that is the hash function determines a "distribution" that is an even distribution but that distribution must maintain the ordering within a flow as is well described in the original application. With reference to page 12, lines 12-19, the hash uses flow information "source/destination address, port, and the protocol" or any information that allows "for flow preservation." The hash function is described on page 13, lines 1-13. "Hashing" is a well known approach to breaking up a long chain of items, say packets, into groups that can be more easily processed in the smaller groups. Hashing techniques are well known in the art, for example the term is well defined in the Encyclopedia of Computer Science, published in 1993 (predecessors in print since 1976), by Van Nostrand Reinhold.

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B. With respect to claim 6, see below, claim 6 is amended, and includes the "uplink" to the Internet.

As the examiner pointed out, the "uplink" does not "use" the hashed data, the data compilers implement the hash function, and the hashed result, in accordance with keeping the packet flow order preserved, is used by the route processing engines to send groups of same flow packets to an external destination via the uplink. The "uplink" is the path to an outside network or Internet or the like. As such this usage is well accepted in the field. As referenced later the "uplink" terminology is made distinct from the hashing function and thus is made clear in the twice amended claim 1.

C. For claims 17, 26, and 35, the Office Action states that the specification does not adequately describe the "preserve an original packet flow." Again adding the word "ordered" and deleting "original" as in claim 1 to the claims 17, 26 and 35 provides clear enabled meaning when considering the above referenced excerpts from the original application.

In addition the word "flow" has been deleted from the phrase "network layer flow information." Network layer information is well known in the art and it suitable for standing alone.

D. For claims 21, 30, and 39, the Office Action states that the "table containing entries for use in selecting the one processing engine and selecting one entry in the table specified by an index value being based upon the hash function value" is not enabled in

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the original application. In particular, the Office Action states that the "use in selecting the one processing engine" is not described in the specification. The "one processing engine" in these claims is found in the parent claims. As described above, the way to preserve the ordering of the packets in a flow is by keeping the related packets together and sending the same flow packets to the same processor. This approach is clear and enabled in the original application and now in the amended claims with respect to the portions of the original application referenced above. Therefore the hash function, when applied to a portion of the header/layer information that is identical for packets belonging to the same flow, will produce the same value since the information is the same. The "hash" by definition is simply an equation applied, in this case, to a portion of the header data. The same result can be used as an index into a table and therefor to a given processor. Thus a processor that is to receive all the packets of a given flow may be addressed via a table using an index into that table (that identifies a processors) again since all the packets of the same flow are sent to the same processor. The addition of selecting via the table is also added to the claim to further enable and make clear the relationship. The originally filed application described hashing a portion of the packet information.

Page 12, lines 12-13, describes, "...analyzes router system traffic and distributes flows to multiple processors. The distribution is partly table driven,..." It is respectfully submitted that such language "The distribution is partly table driven" is well known in the art and means that the processors to which the flow is being distributed are each accessed by indexing into a table, and it is respectfully requested that such a term needs no further definition. As in the discussion above the hash function will result in the same

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value for the same flow packets and that value can be used as an index into a table (table driven) to identify the same processor, in this case for the same flow packets. Many source, including the above Encyclopedia, use and describe "table driven."

The Office Action of Jan. 18, 2001 also rejected the claims based on 112, second paragraph. These rejections cited similar phrases as in the 112 first paragraph rejections, and have been similarly corrected herewith.

The Office Action of Jan. 18, 2001 also rejected the claims based on the 35 USC 103(a) citing several references.

However, the Office Action on page 8 indicates a the groupings of claims 6, 9, 15, 16, 10-20, 22-25, 27-29, 31-34, 36-38 and 40-43 have allowable subject matter. Since claim 10 was previously cancelled, the applicant takes the allowance of 11-20 as being intended.

With respect to claim 6, it is noted that claim 6 depends from claim 2 that depends from claim 1. All the limitations of claims 2 and 6 have been added to claim 1 as now amended, therefore as now amended claim 1 and those that depend from claim 1 are now allowable.

With respect to claim 9, it is noted that claim 9 depends from claim 1. Thus, as now amended claim 1 is allowable, and therefor 9 is now allowable.

With respect to claim 15, it is noted that claim 15 depends from claim 11. All the limitations of claims 15 have been added to claim 11, therefore as now amended claim 11 and those that depend from claim 11 are now allowable.

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With respect to claim 22, it is noted that claim 22 depends from claim 17. All the limitations of claim 22 have been added to claim 17, therefore as now amended claim 17 and those that depend from claim 17 are now allowable. In particular claim 21 is amended to overcome the first paragraph of section 112 objections, and so claim 21 that depends from claim 17 is allowable.

With respect to claim 27, it is noted that claim 27 depends from claim 26. All the limitations of claim 27 have been added to claim 26 therefore as now amended claim 126 and those that depend from claim 26 are now allowable.

With respect to claim 31, it is noted that claim 31 depends from claim 26, also. Since claim 26, as now amended, is allowable claim 31 and those that depend from claim 31 are now allowable.

With respect to claim 36 it is noted that claim 36 depends from claim 35. All the limitations of claim 36 have been added to claim 35, therefore as now amended claim 35 and those that depend from claim 35 are now allowable.

With respect to claim 40-43, it is noted that claim 40-43 depend from claim 35. Therefore as now amended claims 40-43 that depend from claim 35 are now allowable.

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The Office Action mailed September 12, 2000 has been carefully considered. The 112 first paragraph and obviousness objections of the present claims as now amended have been overcome. Reconsideration and allowance of the subject application, as amended, are respectfully requested.

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In the event that the Examiner deems personal contact desirable in disposition of this case, the Examiner is requested to call the undersigned attorney at (617) 951-3040.

It is believed that no additional fee is need, but, if not, please charge any additional fee occasioned by this paper to our Deposit Account No. 03-1237.

Respectfully submitted,

Edwin H. Paul
Reg. No. 31,405
CESARI AND MCKENNA, LLP
88 Black Falcon Avenue
Boston, MA 02210-2414
(617) 951-2500